

## WEST Search History

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DATE: Monday, January 05, 2004

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L6: Entry 3 of 13

File: USPT

Feb 8, 1977

DOCUMENT-IDENTIFIER: US 4007449 A

TITLE: Control device for local connection of a peripheral unit through a modem interface for remote connection

Abstract Text (1):

A control system for a variable speed peripheral device which is suitable for remote as well as for local connection of the peripheral device to a central processor. For remote connection, the central processor is coupled to the peripheral device by way of a transmission controller, a remote communication line, and the control system connected to the peripheral device. First and second modems terminate the communication line and are connected through standard interfaces to the transmission controller and to the control system respectively. For this connection, the character transmission rate must be lower than, or equal to, the minimum operating speed of the peripheral device. For local connection, the central processor is coupled to the peripheral device by way of the transmission controller, the control system and the standard interface connected thereto. The latter interface further includes a special output lead connected to indicate the status of the peripheral device to the transmission controller in response to signals received from a control circuit internal to the control system. The transmission controller is thus enabled to transfer data to the peripheral device in the local connection at a rate that varies to meet the instantaneous requirements of the peripheral device. The average transmission rate thus exceeds the transmission rate for remote connection which must conform to the minimum operating speed of the peripheral device.

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L4: Entry 1 of 2

File: USPT

Jan 28, 1986

DOCUMENT-IDENTIFIER: US 4566299 A

TITLE: Control method and apparatus for rolling mill

Abstract Text (1):

In a rolling mill having a pair of upper and lower work rolls, defining a pressure gap therebetween through which a material is passed to be rolled, a method and apparatus for controlling the rolling mill under the different peripheral-speed rolling operation in which one of the rolls is driven at a predetermined peripheral speed by controlling the speed of a motor for driving the one roll, and the other roll is controlled to generate a torque corresponding to a difference, between a total torque required for the rolling operation and a torque generated by the one roll by controlling the torque of the motor for driving the other roll on the basis of a torque command corresponding to the torque difference.

## CLAIMS:

1. A control apparatus for controlling at least a pair of rolls of a rolling mill for rolling a material to be rolled by passing said material through a pressure gap defined between said rolls, said apparatus comprising:

a pair of motors connected to respective work rolls;

speed control means connected to one of said motors and controlling the speed of said one of said motors driving one of said rolls so as to drive said one roll at a predeterminid peripheral speed;

first means connected to said one roll for determining and outputting a signal representing an actual torque produced by said one roll;

second means for determining and outputting a signal representing a total torque required for rolling said material under a predetermined rolling condition;

third means connected to the output of said first and second means for producing a torque signal representing a difference between said total torque determined by said second means and said actual torque of said one roll determined by said first means; and

fourth means connected to said third means and said other roll for controlling a current of the other of said motors for driving said other roll so as to cause said other roll to produce a torque corresponding to said torque signal.

3. A control method for controlling at least a pair of rolls of a rolling mill for rolling a material to be rolled by passing said material through a pressure gap defined between said rolls, a pair of motors being connected to respective work rolls, said method comprising the steps of:

controlling the speed of one of said motors connected to one of said rolls for driving said one of said rolls at a predetermined peripheral speed;

determining an actual torque produced by said one roll and outputting a signal

representative thereof;

determining the total torque required for rolling said material under a predetermined rolling condition and outputting a signal representative thereof;

producing a torque signal in accordance with a difference between said total torque signal and said actual torque signal of said one roll; and

controlling the other of said motors for driving said other roll so as to cause said other roll to produce a torque corresponding to said torque signal.

4. A control method according to claim 3, further comprising the step of correcting said torque signal so as to increase the peripheral speed of said other roll when the peripheral speed of said other roll decreases a predetermined value below a desired speed of said other roll determined according to the predetermined rolling condition.

5. A control method according to claim 3, wherein the step of determining the total torque required under the predetermined rolling condition includes one of calculating the total torque required and utilizing the results of rolling in a prior actual rolling operation.

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L4: Entry 2 of 2

File: DWPI

Nov 2, 1995

DERWENT-ACC-NO: 1995-393316

DERWENT-WEEK: 200055

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**TITLE:** Infeed station for web material, e.g. cardboard, to platen press for processing in cyclic manner - has infeed roller driven by DC motor so that its peripheral speed varies in similar manner to outlet speed of web material while permanently remaining at higher value

**Basic Abstract Text (1):**

The infeed station (10) comprises an eccentric roller (13) mounted between two rotary plates around which a web material (5) travels in such a manner that its speed of advance is converted from a constant inlet speed to an outlet speed which varies under predetermined conditions during an operating cycle of the station.

**Equivalent Abstract Text (1):**

Infeed station (10) for a web-like matter (5) which is continuously fed into a station (20) that processes it sequentially comprising an eccentric roller (13) fitted between two rotary plates around which the web-like matter (5) travels so as to have its running speed converted from a constant inlet speed VO into an outlet speed VIT which evolves according to predetermined conditions in the course of an operating cycle of the station, as well as an infeed roller (15) which guides the web-like matter (5) from the eccentric roller (13) towards said station (20), characterised by the fact that the infeed roller (15) is driven by an independent device (35, 40/42, 44/46) so that its peripheral speed VR follows conditions similar to the outlet speed VIT of the web-like material although remaining permanently at a higher rate.

**Equivalent Abstract Text (2):**

In combination, an infeed station having an eccentric roller mounted for rotation between two rotary plates around which a web-like sheet travels so that the speed of the sheet entering the station is converted from a constant inlet speed into a variable outlet speed which is desired by an operating cycle of a working station to which the sheet is being supplied, said infeed station having an infeed roller for guiding the web-like sheet from the eccentric roller into the working station, the improvement comprising means for driving the infeed roller with a variable peripheral speed which is being synchronized with changes in the variable outlet speed of the web-like sheet passing through the working station although the variable peripheral speed of the feed roller remains permanently at a higher rate than the variable outlet speed of the web-like sheet.